

WHAT IS CLAIMED IS:

1. A castable refractory powder composition comprising refractory aggregate, fine refractory powder, alumina cement, a dispersing agent and a powdery hydration stopper for said alumina cement, said hydration stopper  
5 being a material, which is acidic in a state of an aqueous solution, and the amount of said hydration stopper being controlled such that a premixed material obtained by tempering said castable refractory powder composition with water has a pH of 2 to 7.
2. The castable refractory powder composition according to claim 1,  
10 wherein said hydration stopper is at least one selected from the group consisting of hydroxycarboxylic acids and their salts, a polyacrylic acid and its derivatives, salts of an acrylic acid, chelating agents, condensed phosphate, aluminum phosphate and a boric acid.
3. The castable refractory powder composition according to claim 1 or  
15 2, wherein said alumina cement is 0.1 to 12% by mass, and said dispersing agent is 0.01 to 1% by mass (outer percentage), based on the total amount (100% by mass) of said refractory aggregate, said fine refractory powder and said alumina cement.
4. A premixed material obtained by tempering a castable refractory  
20 powder composition comprising refractory aggregate, fine refractory powder, alumina cement, a dispersing agent and a hydration stopper for said alumina cement with water in advance, said hydration stopper being a material, which is acidic in a state of an aqueous solution, and the amount of said hydration stopper being controlled such that said premixed material has a  
25 pH of 2 to 7.
5. The premixed material according to claim 4, wherein said hydration stopper is at least one selected from the group consisting of hydroxycarboxylic acids and their salts, a polyacrylic acid and its

derivatives, salts of an acrylic acid, chelating agents, condensed phosphate, a phosphoric acid, aluminum phosphate and a boric acid.

6. The premixed material according to claim 4 or 5, wherein said castable refractory powder composition comprises 0.1 to 12% by mass of said alumina cement and 0.01 to 1% by mass (outer percentage) of said dispersing agent, based on the total amount (100% by mass) of said refractory aggregate, said fine refractory powder and said alumina cement.

7. The premixed material according to any one of claims 4 to 6, wherein it can be stored for 5 days or more after production.

8. A method for casting a premixed material comprising tempering a castable refractory powder composition comprising refractory aggregate, fine refractory powder, alumina cement, a dispersing agent and an alumina cement hydration stopper with water in advance to prepare said premixed material, adding an alumina cement hydration starter to said premixed material and mixing them immediately before casting, and then casting the resultant mixture into a mold.

9. The method for casting a premixed material according to claim 8, wherein a material, which is acidic in a state of an aqueous solution, is used as said hydration stopper; wherein the amount of said hydration stopper is controlled such that said premixed material has a pH of 2 to 7; and wherein the amount of said hydration starter is 0.02 to 0.5% by mass (outer percentage), based on the total amount (100% by mass) of said refractory aggregate, said fine refractory powder and said alumina cement.

10. The method for casting a premixed material according to claim 8 or 9, wherein said hydration stopper is at least one selected from the group consisting of hydroxycarboxylic acids and their salts, a polyacrylic acid and its derivatives, salts of an acrylic acid, chelating agents, condensed phosphate, a phosphoric acid, aluminum phosphate and a boric acid; and

wherein said alumina cement hydration starter is at least one selected from the group consisting of aluminates, hydroxides, carbonates, nitrites, silicates and borates of alkali metals, and oxides and hydroxides of alkaline earth metals.

5 11. The method for casting a premixed material according to any one of claims 8 to 10, wherein said castable refractory powder composition comprises 0.1 to 12% by mass of said alumina cement and 0.01 to 1% by mass (outer percentage) of said dispersing agent, based on the total amount (100% by mass) of said refractory aggregate, said fine refractory powder  
10 and said alumina cement.

12. The method for casting a premixed material according to any one of claims 8 to 11, comprising conveying said premixed material through a pipe by the action of a pump, adding said alumina cement hydration starter to said premixed material in said pipe and mixing them by a line mixer  
15 connected to said pipe, and then casting the resultant mixture from said outlet into said mold.

13. The method for casting a premixed material according to any one of claims 8 to 12, wherein the addition of said hydration starter can be carried out 5 days or more after the production of said premixed material.

20 14. A hardened refractory body obtained by adding an alumina cement hydration starter to the premixed material recited in any one of claims 4 to 7 and mixing them, and then casting the resultant mixture.

15. The hardened refractory body according to claim 14, obtained by mixing said premixed material with at least one selected from the group  
25 consisting of aluminates, hydroxides, carbonates, nitrites, silicates and borates of alkali metals, and oxides and hydroxides of alkaline earth metals as said hydration starter for alumina cement, and then casting the resultant mixture.

16. The hardened refractory body according to claim 14 or 15, wherein the amount of a hydration starter for said alumina cement is 0.02 to 0.5% by mass (outer percentage), based on the total amount (100% by mass) of said refractory aggregate, said fine refractory powder and said alumina cement.

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